applying an overlapped reversible wavelet transform to the input data [using non-minimal length reversible filters] to produce a series of coefficients and

compressing the series of coefficients into data representing a [losslessly] compressed version of the input data, including context modeling bits of each of the series of coefficients based on known coefficients in other frequency bands and neighboring coefficients in the same frequency band.

6. (Twice Amended) The method defined in Claim 1 wherein the step of compressing comprises [embedded coding the series of coefficients, including the steps of ordering the series of coefficients and] performing bit significance embedding on the series of coefficients [after ordering].

8. (Twice Amended) A method for decoding data into original data comprising the steps of:

decompressing a [losslessly] compressed version of input data into a plurality of transformed signals, including context modeling bits of the plurality of transformed signals based on known transformed signals in other frequency bands and neighboring transformed signals in the same frequency band; and

generating a reconstructed version of original data from the plurality of transformed signals with an overlapped inverse reversible wavelet transform [using non-minimal length reversible filters to produce a series of coefficients].

Please cancel Claim 11 without prejudice.

12. (Twice Amended) A method for processing input data comprising the steps of:

generating a first plurality of transformed signals in response to the input data with a reversible overlapped wavelet transform using a first pair of non-minimal length reversible filters;

compressing the first plurality of transformed signals into data representing a [losslessly] compressed version of the input data, including context modeling the first plurality of transformed signals based on known transformed signals in other frequency bands and neighboring transformed signals in the same frequency band;

decompressing the [losslessly] compressed version of the input data into a second plurality of transformed signals; and

generating the input data from the second plurality of transformed signals into a reconstructed version of the input data with an inverse reversible overlapped wavelet transform [using a second pair of non-minimal length reversible filters.

13. (Twice Amended) A method for encoding input data comprising the steps of:

transform coding the input data into a series of coefficients with an overlapped reversible wavelet transform [using a pair of non-minimal length reversible filters]; and

embedded coding the series of coefficients, including the steps of ordering the series of coefficients, [and] performing bit significance embedding on the series of coefficients, wherein a first type of embedded coding is performed on a first portion of the data and a second type of embedded coding is performed on a second portion of the data using context modeling based

upon known coefficients in other frequency bands and neighboring coefficients in the same frequency band.

17. (Twice Amended) A method for encoding input data comprising the steps of:

transforming input data into a series of coefficients with an overlapped reversible wavelet transform [using a pair of non-minimal length reversible filters];

converting the series of coefficients into sign-magnitude format to produce a series of formatted coefficients;

coding a first portion of the series of [formatted] coefficients using a first type of embedded coding to produce a first bit stream; [and]

coding a second portion of the series of formatted coefficients using a second type of embedded coding that models data using known coefficients in other frequency bands and neighboring coefficients in the same frequency to produce a second bit stream[, wherein]; and

coding the first bit stream and second bit stream [are combined] into a single bit stream.

20. (Twice Amended) The method defined in Claim 17 wherein the first portion comprises the [high order] bits of the series of formatted coefficients that include the most significant bit of each of the series of coefficients and the second portion comprises the [lower order] bits of the series of formatted coefficients that are not in the first portion.

22. (Twice Amended) An encoder for encoding input data into a compressed data stream, said entropy coder comprising:

a reversible wavelet filter for transforming the input into a plurality of coefficients [using a pair of non-minimal length reversible filters];

an embedded coder coupled to a reversible wavelet filter for performing embedded coding on the plurality of coefficients to generate a bit stream, when the embedded coder comprises a context model to model data based on known coefficients in other frequency bands and neighboring coefficients in the same frequency band; and

an entropy coder coupled to the embedded coder to perform entropy coding on the bit stream to create coded data.

23. (Twice Amended) An encoder for encoding input data comprising:

a transform coder coupled to receive the input data and generate a series of coefficients that represent a decomposition of the input data [using a pair of non-minimal length reversible filters]; and

an embedded coder coupled to receive the series of coefficients and perform bit-significance encoding on the series of coefficients to create coded data, when the embedded coder comprises a context model to model data based on known coefficients in other frequency bands and neighboring coefficients in the same frequency band, [wherein] the embedded coder [produces] producing the coded data as [prior to receiving all] the series of coefficients are received.

Please add the following claims.

25. (New) The method defined in Claim 1 wherein the overlapped reversible wavelet transform comprises a Two, Ten transform.

26. (New) The method defined in Claim 8 wherein the overlapped inverse reversible wavelet transform comprises a Two, Ten transform.

27. (New) The method defined in Claim 12 wherein the overlapped reversible wavelet transform comprises a Two, Ten transform.

28. (New) The method defined in Claim 13 wherein the overlapped reversible wavelet transform comprises a Two, Ten transform.

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29. (New) The method defined in Claim 17 wherein the overlapped reversible wavelet transform comprises a Two, Ten transform.

30. (New) The method defined in Claim 22 wherein the reversible wavelet filter comprises a Two, Ten transform.

31. (New) The method defined in Claim 23 wherein the overlapped reversible wavelet transform comprises a pair of non-minimal length reversible filters that operate as a Two, Ten transform filter pair.

32. (New) A decoder for decoding input data comprising

a decompressor to decompress a compressed version of input data into a plurality of coefficients using context modeling based on known coefficients in other frequency bands and neighboring coefficients in the same frequency; and

an overlapped inverse reversible wavelet transform coupled to the decompressor to generate a reconstructed version of original data from the plurality of coefficients.

33. (New) The method defined in Claim 1 wherein the step of applying an overlapped reversible wavelet transform to the input data comprises applying non-minimal length reversible filters to produce the series of coefficients.

34. (New) The method defined in Claim 8 wherein the step of generating a reconstructed version of the original data comprises applying non-minimal length reversible filters to produce the series of coefficients.

35. (New) The method defined in Claim 13 wherein the step of transformed coding comprises applying a pair of non-minimal length reversible filters to transform code the input data into the series of coefficients.

36. (New) The method defined in Claim 17 wherein the step of transformed coding comprises applying a pair of non-minimal length reversible filters to transform code the input data into the series of coefficients.

37. (New) The method defined in Claim 22 wherein the reversible wavelet filter comprises a pair of non-minimal length reversible filters.

38. (New) The method defined in Claim 23 wherein the transform coder comprises a pair of non-minimal length reversible filters.

39. (New) A system comprising:

a Two/Ten variable wavelet filter; and

a coder coupled to the Two/Ten filter to code coefficients generated by the Two/Ten wavelet transform filter.

40. (New) The system defined in Claim 39 wherein the coder comprises a context model, and a bit generator coupled to the context model.

41. (New) The system defined in Claim 40 wherein the context model models bits of coefficients based on known coefficients in other frequency bands and neighboring coefficients in the same frequency band.

42. (New) A decoding system comprising:
a decoder to decode compressed data into a series of coefficients; and
an inverse Two, Ten reversible wavelet filter coupled to the decoder.

43. (New) The method defined in Claim 42 wherein the decoder comprises a context model to model data based on known coefficients in other frequency bands and neighboring coefficients in the same frequency band.

REMARKS

Prior to examination of the above-referenced case on the merits, please enter the following amendments and consider the following remarks. Claims 1, 4, 5-8, 11-13 and 15-24 remain in the application. Claims 1, 6, 8, 12-13, 17, 20 and 22-23 have been amended. Claims 25-43 have been added. Claim 11 has been canceled.

The Examiner objected to the drawings under 37 C.F.R. 1.830(a), as not showing every feature of the invention specified in the claims. Specifically, the Examiner set forth that the feature that "bits significance embedding on